



CHONGQING CUMMINS ENGINE COMPANY LTD.

ENGINE DATA SHEET

Page 1 of 4

Data Sheet: DS-641
Date: 2010-11-17
V 1.0

ENGINE MODEL(S): **KTA19-G8**

STAND_BY: 771BHP @1500r/min
575kW

REFERENCE INFORMATION:
CONFIGURATION..... D193091DX02
CPL NUMBER 8685
PRIME: PERFORMANCE CURVE NUMBER..... C-487
INSTALLATION DIAGRAM.....

GENERAL ENGINE DATA

Type..... 4 Cycle , In-line , 6 Cylinder

Aspiration..... Turbocharged , Aftercooled

Bore—in.(mm)×stroke—in.(mm)..... 6.25×6.25 (159×159)

Displacement—in³(L)..... 1150 (19)

Compression Ratio..... 13.9:1

Dry Weight

Fan Hub to Flywheel Engine —lb(kg)..... 3725 (1690)

Radiator Cooled Engine —lb(kg)..... 5900 (2676)

Wet Weight

Fan Hub to Flywheel Engine —lb(kg)..... 3880 (1760)

Radiator Cooled Engine —lb(kg)..... 6300 (2858)

Moment of Inertia of Rotating Components (Excluding Flywheel) —lb_{in}.ft²(kg·m²)..... 43 (1.82)

• With FW 4001 Flywheel —kg·m²(lb_m·ft²)..... 7.16 (170.0)

• With FW 4006 Flywheel —kg·m²(lb_m·ft²)..... 8.39 (199.0)

C.G. Distance From Rear Face of Flywheel Housing (FH4018)—in(mm)..... 28.4 (721)

C.G. Distance Above Crank Centerline—in(mm)..... 9 (229)

Maximum Allowable Bending Moment at Rear Face of Block —N·m(lb.ft)..... 2000 (907)

Firing Order..... 1-5-3-6-2-4

ENGINE MOUNTING

Moment of Inertia About Roll Axis —lb.ft²(kg·m²)..... 1876 (79)

EXHAUST SYSTEM

Maximum Allowable Back Pressure —in.Hg(kPa)..... 3 (10)

Exhaust Pipe Size Normally Acceptable —in(mm)..... 5 (127)

AIR INDUCTION SYSTEM

Maximum Allowable Intake Air Restriction With Heavy Duty Air Cleaner

Dirty Element —in.H₂O(kPa)..... 25 (6.23)

Clean Normal Element —in.H₂O(kPa)..... 10 (2.49)

Clean Heavy Duty Element —in.H₂O(kPa)..... 15 (3.73)



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Page 2 of 4

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COOLING SYSTEM

Coolant Capacity

Engine Only —U.S.Gal(L).....	.8	(30)
With heat exchanger HX 6076 (With out explantion tank) —U.S.Gal(L).....	53	(199)
Minimum Allowable Pressure Cap @ sea level— PSI(kPa).....	7	(48)
Maximum Coolant Friction Heat External to Engine —PSI(kPa).....	.5	(34.5)
Maximum Pressure Drop Across Any External Cooling System Circuit —PSI(kPa).....	5	(34.5)
Minimum Raw Water Flow @ 90°F(32°C) to Heat Exchanger With HX 6076 —GPM(L/min).....	108	(408.8)
Maximum Raw Water Inlet Pressure @ Heat Exchanger HX 6076 —PSI(kPa).....	50	(344.7)
Maximum Allowable Top Tank Temperature (Stand_by/Prime) —°F(°C).....	220/212	(104/100)
Standard Thermostat (modulating) Range— °F(°C).....	180-200	(82-93)
Maximum Coolant Pressure (Exclusive of Pressure Cap) —PSI(kPa).....	15	(103)
Minimum Coolant Makeup Capacity —U.S.Gal(L).....	1.6	(6.1)
Maximum Raw water Inlet Friction —PSI(kPa).....	10	(254.0)
Maximum Raw water Pump Suction —ft.(m).....	15	(4.6)
Maximum Raw water Pump head —ft.(m).....	67	(20.5)
Minimum Allowable Fill Rate —U.S.GPM(L/min).....	.5	(18.9)
Maximum Allowable Initial Fill Time —min.....	5	
Minimum Allowable Coolant Expansion Space —% of System Capacity.....	5	
Maximum Allowable Deaeration Time —min.....	25	

LUBRICATION SYSTEM

Oil Pressure

@ Idle —PSI(kPa).....	20	(138)
@ Rated Speed —PSI(kPa).....	50-70	(345-483)

Oil Flow at Rated Speed —U.S.GPM(L/min)..... 40 (151.4)

Maximum Allowable Oil Temperature —°F(°C)..... 250 (121.0)

By-Pass Filter Capacity

Spin-on Cartridge Type —U.S.Gal(L).....	0.7	(2.6)
Replaceable Element Type —U.S.Gal(L)	2.9	(11.0)

Oil Pan Capacity (Option OP6023)

High —U.S.Gal(L).....	30.0	(113.6)
Low —U.S.Gal(L).....	23.0	(87.1)

Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L)..... 13.2 (50.0)

Angularity of Standard Oil Pan (Option OP6023)

Front Down.....	30°
Front Up.....	30°



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ENGINE DATA SHEET

Page 3 of 4

Data Sheet: DS-641
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FUEL SYSTEM

Fuel Injection System.....	Cummins PT	
Maximum Fuel Consumption at Maximum Rated Output and Speed —lb/h(kg/h).....		
Maximum allowable Restriction to PT Fuel Pump		
With Clean Fuel Filter —in.Hg(kPa).....	4	(13.55)
With Dirty Fuel Filter —in.Hg(kPa).....	8	(27.09)
Maximum Fuel Supply at Rated Power and Speed —lb/h(kg/h).....		
Maximum Allowable Injector Return Line Restriction		
With Check Valves —in.Hg(kPa).....	7	(22)
Less Check Valves —in.Hg(kPa).....	3	(8)
Minimum Allowable Fuel Tank Vent Capability —ft ³ /h (L/h)	15	(425)
(With 2.5 in. Hg (63 mm Hg) or Less Back Pressure)		

ELECTRICAL SYSTEM AND START SYSTEM

Starter (Heavy, Anode)—Volt.....	24
Battery Recharge System,Negative ground—A.....	35
Maximum Allowable Resistance of Starting Circuit—Ω.....	0.002
Minimum Recommended Battery Capacity	
·Cold Soak at 50°F(10°C) or Above—°F CCA.....	600
·Cold Soak at 32~50°F(0~10°C) or Above—°F CCA.....	640
·Cold Soak at 0~32°F(-18~0°C) or Above—°F CCA.....	900

PERFORMANCE DATA

Idle —r/min.....	725-775
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Page 4 of 4

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(At 50 ft(15m) and Full Load Governed Speed (Excludes Noise From Intake.Exhaust. Cooling System and Driven Components)

Minimum Cranking Speed Required For Unaided Cold Start —°F(°C)..... 150

	60 Hz	50 Hz	60 Hz	50 Hz
Engine Speed r/min.....		1500		
Gross Power Output BHP(kW).....		771(575)		
Torque lb.ft(N·m).....	0(0)	2699(3660)		
Nominal Rail Pressure PSI(kPa).....		2773(1309)		
Intake Air Flow CFM(L/s).....		7500(3540)		
Exhaust Gas Flow				
Dry Manifold °F(°C).....		984(529)		
Dry Manifold BTU/min(kW).....		8758(154)		
Dry Manifold BTU/min(kW).....		38216(672)		
Engine Water Flow L/s(U.S.GPM).....		310.7(19.6)		
with 125°F(52°C) RadiatorCFM(L/s).....				